MODLAND V004 Readiness Review LP DAAC Status

December 17, 2002

Calli B. Jenkerson

MODIS Science Data Specialist

605 594 2638

jenkerson@usgs.gov

U.S. Department of the Interior

U.S. Geological Survey

LP DAAC READINESS REVIEW

System Readiness

Public Release Plan

Data Deletion

Data Pool Status

Contractor for the USGS
at the EROS Data Center

LP DAAC SYSTEM READNIESS INGEST RATES

LP DAAC can guarantee the nominal rates put forward below.

LP DAAC will make a Best Effort toward supporting at least 3.5X MODIS RPROC production

*Best Effort is described as LP DAAC-observed peak rate performance during Load Testing. Planned Ingest at these rates is a **risk** assumed by MODAPS production as the LP DAAC cannot guarantee these rates will be sustained.

Sustained rates are TBD pending further testing during the week of December 16 and after production commences. These rates may also be constrained by operational staff and system load based on the level of ingest failure.

Data Provider	Nominal Guarantee / 24hr		*Best Effort / 24hr	
X=330GB	"X"	TB	"X"	TB
Terra RPROC	2.8	0.902	3.5	1.13
Terra FPROC	1	0.322	1	0.322
Aqua FPROC	1	0.322	1	0.322
TOTAL	4.8	1.546	5.5	1.774

LP DAAC SYSTEM READINESS CONTIGENCIES

LP DAAC ingest rates are influenced significantly by:

•Small file sizes which have a high degree of system overhead

(reduced rates are observed during ingest of data with small file sizes)

•"X Distribution" must be maintained by Data Provider in order for LP DAAC
to successfully attempt Best Effort performance and beyond

Terra FPROC 1X

Aqua FPROC 1X

Terra RPROC
2.8+X

LP DAAC pushes FPROC and RPROC through independent paths,
each designed and configured specifically for respective X requirements.
Using "extra" X from one stream to accommodate any production
deficiency in the other reduces the ability to ingest at higher rates.

LP DAAC RELEASE PLAN SCHEDULE

WEEK 1 DAILY
WEEK 2 8-DAY
WEEK 3 16- DAY
WEEK 4 REMAINING

DAILY (11)

MOD14
MOD11_L2
MOD11A1
MOD11B1
MOD09GHK
MOD09GST
MODMGGAD
MODPT1KD
MODPTHKM
MOD09GQK
MODPTQKM

SUN	MON	TUE	WED	THU	FRI	SAT
12/22	12/23	12/24	12/25	12/26	12/27	12/28
12/29	12/30	12/31	1/1	01/02	1/3 EARLY START	01/04
1/5	1/6	1/7	1/8	1/9	1/10 TARGET START	1/11
1/12	1/13	1/14	1/15	1/16	1/17 LATE START	1/18
1/19	1/20	1/21	1/22	1/23	1/24	1/25
1/26	1/27	1/28	1/29	1/30	1/31	

8-DAY (7)

MOD09Q1
MOD09A1
MOD11A2
MOD14A1
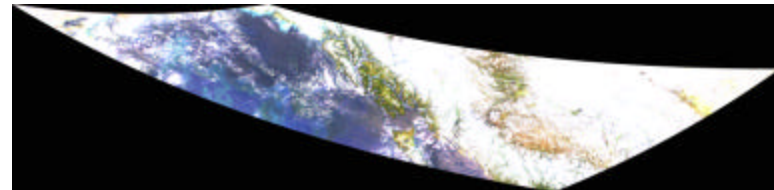MOD14A2
MOD15A2
MOD17A2

16-DAY (7)

MOD13A1
MOD13A2
MOD13Q1
MOD43B1
MOD43B2
MOD43B3
MOD43B4

LP DAAC RELEASE PLAN ONE PAGERS

LP DAAC data releases are accompanied by publication of "one pagers" on the DAAC website. Preference is strongly given to products for which one pager information is complete and approved by the DAAC and the Science Team. Science Team cooperation in updating current one pagers will facilitate expeditious and proper data release.

EDG Data Set Name
MODIS/Terra Surface Reflectance 8-Day L3 Global 500m ISIN Grid
Granule Shortname
MOD09A1
Data Set Characteristics
Area = ~ 10° x 10° lat/long
Image Dimensions = 2400 x 2400 rows/columns
Average File Size = 161 MB
Resolution = 500 meters
Projection = Sinusoidal
Data Format = HDF-EOS
Science Data Sets (SDSs) = 13

Product Description
The MOD09A1 image shown above is a sample of the Level 3, 8-day composite of 500m Level 2G Surface Reflectance bands 1 (red), 4 (green) and 3 (blue). This product is computed from the MODIS Level 1B land bands 1-7. Other MOD09 products available from EDC DAAC include Level 2G Daily Surface Reflectance at 500m (MOD09GHK **)** at 500m resolutions and State QA (MOD09GST) at 1 Km resolutions. The product is an estimate of the surface spectral reflectance for each band as it would have been measured at ground level if there were no atmospheric scattering or absorption. The correction scheme compensates for the effects of atmospheric gases, aerosols, and thin cirrus clouds; it is applied to all non-cloudy MOD35 Level 1B pixels that pass the Level 1B quality control. It uses input from: Bidirectional Reflectance Distribution Function (BRDF)/Albedo Product (MOD43), Atmospheric Profiles (MOD07) for ozone, Total Precipitable Water (MOD05) for water vapor, Aerosol Product (MOD04) for aerosols, and MODIS band 26 for cirrus clouds. The best available ancillary or climatology data are used if these MODIS-specific inputs are unavailable. Level 2G Surface Reflectance is used to derive several higher-level land products: Vegetation Indices (MOD13), BRDF (MOD43), Thermal Anomaly/Fire (MOD14), and Fraction of Photosynthetically Active Radiation/Leaf Area Index (MOD15).

LP DAAC DELETION STRATEGY

V004 Load Test Data Deletion

Data removed from view pre-public release.

Risk: Current schedules for operational implementation of the ECS Granule Deletion Tool may exceed the projected January 3 early release date.

V001 Data Deletion

Data removed wholesale after completion of V004 reprocessing through March 2001 (last known V001 acquisition date in archive).

V003 Data Deletion

6 months after completion of V004 reprocessing.

LP DAAC V003 DATA POOL

LP DAAC V003 Data Pool Public as of December 16

Currently In-Progress

Most recent 12 months V003

MOD09A1 in progress

MOD13A2

MOD15A2

MOD17A2

http://edcdaac.usgs.gov/tutorial/datapool.html

LP DAAC V004 DATA POOL STRATEGY

**8-day rolling archive of Daily Products
(excluding pointer and angle files)**

**Accumulate 12-month rolling archive of
Terra and Aqua forward processing of
8-, 16-, 32-day, quarterly & annual**

FTP MODIS

LP DAAC V004 DATA POOL CONSIDERATIONS

• **Extent to which 'reprocessed' V004 should be loaded**

• **No reconciliation with ECS archive (QA updates, duplicates)**

• **Need to partition sufficient 'workspace' once HEG Tool is deployed**

        subsetting   **format conversion**

        reprojection   **file compression**

• **Strategy can be modified depending on SANS augmentation and data usage**

• **Estimates for some product sizes TBR**

Temporal Frequency	Shortname	Granule Size (MB) [Granule Size(GB)*1024]	Total #Tiles	Vol. (MB) Global Coverage	Vol. (GB) Global Coverage	# Production Periods to Keep Online	Total Global Volume after 12 months (MB)	Total Global Volume after 12 months (GB)
1	MOD09GQK	436.39	286	124806.80	121.9	8	998454.37	975.1
1	MOD09GHK	316.34	286	90473.05	88.4	8	723784.41	706.8
1	MOD09GST	9.89	286	2827.58	2.8	8	22620.64	22.1
1	MOD11_L2	25.90	286	7407.34	7.2	8	59258.73	57.9
1	MOD11B1	1.97	286	562.42	0.5	8	4499.37	4.4
1	MOD11A1	23.86	286	6823.83	6.7	8	54590.66	53.3
1	MOD11C1		1	0.00	0.0	8	0.00	0.0
1	MOD14	13.83	286	3954.78	3.9	8	31638.22	30.9
1	MOD14GD	25.59	286	7318.85	7.1	8	58550.82	57.2
1	MOD14GN	25.29	286	7232.46	7.1	8	57859.69	56.5
1	MOD14A1	56.65	286	16200.88	15.8	8	129607.03	126.6
8	MOD09Q1	138.51	286	39615.08	38.7	46	1822293.76	1779.6
8	MOD09A1	161.51	286	46192.28	45.1	46	2124844.76	2075.0
8	MOD11A2	23.26	286	6652.97	6.5	46	306036.75	298.9
8	MOD11C2		1			46		
8	MOD14A2	2.99	286	855.55	0.8	46	39355.53	38.4
8	MOD15A2	5.84	286	1670.95	1.6	46	76863.50	75.1
8	MOD17A2	4.40	286	1257.40	1.2	46	57840.58	56.5
16	MOD13A1	126.89	286	36290.91	35.4	23	834690.89	815.1
16	MOD13A2	31.83	286	9102.27	8.9	23	209352.31	204.4
16	MOD13C2		1			23		
16	MOD13Q1	507.09	286	145028.74	141.6	23	3335660.96	3257.5
16	MOD43B1	112.44	286	32158.78	31.4	23	739652.02	722.3
16	MOD43B2	141.24	286	40395.57	39.4	23	929098.05	907.3
16	MOD43B3	69.24	286	19802.59	19.3	23	455459.65	444.8
16	MOD43B4	31.80	286	9094.82	8.9	23	209180.97	204.3
16	MOD43C1	45.61	1	13045.76	12.7	23	300052.48	293.0
16	MOD43C2	66.34	1	18972.49	18.5	23	436367.36	426.1
32	MOD11C3		286			12		
32	MOD12M		286			12		
32	MOD13A3		286			12		
32	MOD13C3		1			12		
32	MOD14C3		1			12		
32	MOD15CM		1			12		
32	MOD17CM		1			12		
96	MOD12Q1	23.16	286	6624.08	6.5	4	26496.34	25.9
96	MOD12Q2		286			4		
96	MOD12C1		1			4		
96	MOD12C2		1			4		
365	MOD17CY		1			1		
365	MOD17A3		286			1		
365	MOD44A		286			1		
365	MOD44B		286			1		
		2427.86		694368.25	678.1		14044109.82	13715.0
								13.39 TB

LP DAAC READINESS SUMMARY

SYSTEM

Nominal rates guaranteed, but Best Effort applies

RELEASE PLAN

All products (daily, 8-day, 16-day) by January 31, 2003, given data received

DELETION STRATEGY

Potential risk to public release start due to implementation of GDT

DATA POOL

In first stages, no guarantees yet